

REMARKS

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Applicants respectfully request entry of this Amendment and reconsideration of this application, as amended.

Claim 9 stands rejected as being informal in view of the unnecessary word "to" before the numeral 10 in line 2 of the claim. This informality has been removed in the amended claim 9 and hence it is believed this objection is now fully met.

Claim 9 further stands rejected under 35 U.S.C. § 112, second paragraph for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention. In particular, the claim is rejected in view of a lack of antecedent basis for the term "benzene/polyalkylated benzene". Accordingly, claim 9 is now to be amended to refer to the ratio of alkylatable aromatic compound to polyalkylated aromatic compound, terms for which there is clear antecedent basis in claim 1. Again, therefore, it is believed that this objection is now fully met.

Claims 1-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaufman (U.S. Patent No. 3,385,906) in view of Cheng et al (U.S. Patent No. 5,557,024). In particular, the Examiner argues that Kaufman discloses the production of cumene by the liquid phase transalkylation of diisopropylbenzene with benzene in the presence of zeolite Y. Although acknowledging that Kaufman fails to disclose the mixture of transalkylation catalysts claimed in the present application, the Examiner relies on the Cheng reference for its disclosure of the use of MCM-22, MCM-49, zeolite Y, zeolite beta and mordenite, including TEA-mordenite, as transalkylation catalysts. According to the Examiner, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the process of Kaufman by utilizing a combination of any two of the transalkylation catalysts disclosed by Cheng because each of these is

individually used as transalkylation catalysts. This rejection is respectfully traversed and reconsideration is requested.

The Examiner bases his rejection on *In re Kerkhoven*, 626 F.2d 846 (CCPA 1980). However, in *Kerkhoven* the CCPA held that it is "*prima facie* obvious to combine to compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the very same purpose". However, the court also acknowledged that, as with any showing of *prima facie* obviousness, the showing could be rebutted by evidence of superior results. See, for example, *In re Papesch*, 315 F.2d 381 (CCPA 1963). In the present case, the results in Table 1 demonstrate that, whereas MCM-22, zeolite beta and mordenite individually exhibit desirable properties as transalkylation catalysts:


- (a) a mixture of MCM-22 and mordenite exhibits an advantageous combination of high diisopropylbenzene conversion activity, high cumene selectivity and low ethylbenzene and n-propylbenzene selectivity as compared with each of the catalysts on its own; and
- (b) a mixture of MCM-22 and beta exhibits an advantageous combination of high diisopropylbenzene conversion activity, high cumene selectivity and low ethylbenzene, 2,2 diphenylpropane and n-propylbenzene selectivity as compared with each of the catalysts on its own

Thus, even assuming *arguendo* that Kaufman and Cheng render Applicants' claimed invention *prima facie* obvious (although Applicants do not concede that *prima facie* obviousness has been established), it is respectfully submitted that the evidence of record clearly overcomes any holding of *prima facie* obviousness. The Examiner is therefore respectfully requested to reconsider his rejection under 35 U.S.C. § 103(a) and allow the claims as amended.

The prior art made of record, Inwood et al (U.S. Patent No. 4,459,426) and Barger et al (U.S. Patent No. 4,774,377 has also been considered. However, it is respectfully submitted that neither of these references, either alone or in combination with Kaufman and Cheng, disclose or suggest Applicant's novel mixed transalkylation catalyst.

In view of the foregoing comments, entry of this Amendment and allowance of this application is earnestly solicited.

Respectfully submitted,

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Peter W. Roberts

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The following changes are being made to claim 9:

9 (Amended). The process of claim 1, wherein said contacting step is conducted at a temperature of 100 to 260°C, a pressure of [to] 10 to 50 barg (1100 to 5100 kPa), and a weight hourly space velocity of 1 to 10 on total feed, and [benzene/polyalkylated benzene] a weight ratio of alkylatable aromatic compound to polyalkylated aromatic compound of 1:1 to 6:1.